

AMENDMENTS TO THE SPECIFICATION

At page 1, after the Title, please add the following section and paragraph:

CROSS-REFERENCE TO RELATED APPLICATIONS

This application is a divisional of copending U.S. application Serial No. 09/902,376, filed July 6, 2001.

At pages 1-2, please delete paragraph [0005] and replace it with the following paragraph:

In the prior art, the debris was typically removed by persons who, in essence, sifted the debris out of the sand, using ~~seives~~ sieves or screens. However, this process was unable to remove all debris. One reason is that the tanks 14 are deep and wide, compared with the size of the ~~seives~~ sieves and screens used. Also, the presence of the fluidized sand reduces visibility, so that the debris-removal operation involves a somewhat random sifting process of various areas of the tanks.

At page 2, please delete paragraph [0006] and replace it with the following paragraph:

In addition, if larger ~~seives~~ sieves or screens were to be used to mitigate the problem just stated, the larger ~~seives~~ sieves and screens represented larger weights which the persons must manipulate and lift. In industry, requiring personnel to lift large weights is not favored, because of possible injury to the persons performing the lifting.

At page 3, please delete paragraph [0020] and replace it with the following paragraph:

Figure 28 illustrates section 450 in Figure 5, in ~~cross-ssection~~ cross-section.

At page 4, please delete paragraph [0025] and replace it with the following paragraph:

The screen 46 of Figure 6 is also shown in Figure 7, which is a cross-sectional view taken at plane 47 in Figure 6, as viewed by eye ~~50~~ 51. Upstanding barriers 53 serve to catch debris, in a manner to be later described, and correspond to walls 34 in Figure 4 and 5.

At page 5, please delete paragraph [0032] and replace it with the following paragraph:

The auger 50 is carried by a gantry ~~70~~ 71, or robotic arm, shown in simplified form in Figure 12. Such arms are known in the art. A motor 75 rotates the auger 50. The gantry can be controlled by an operator (not shown) who controls the position of the gantry ~~70~~ 71, and thus the position of the auger 50, by means of a joystick control 80, or equivalent control.

At page 5, please delete paragraph [0033] and replace it with the following paragraph:

Significantly, in one form of the invention, the auger 50 is not moved, nor is it rotated, by human muscle power. Instead, motor 75 performs the rotation, gantry ~~70~~ 71 supports the weight of the auger 50, and block 76 represents mechanisms which move the gantry ~~70~~ 71 to various positions.

At pages 5-6, please delete paragraph [0035] and replace it with the following paragraph:

Alternately, the gantry ~~70~~ 71 can be computer-controlled. For example, the gantry ~~70~~ 71 can comprise an X-Y-Z table, known in the art, which can position the auger 50 at any selected position. A computer, or other controller, 90 runs one, or more, programs 95 which control the position of the gantry ~~70~~ 71. In this mode of operation, the operator merely launches the program, and the computer cycles the gantry ~~70~~ 71 through an appropriate cleaning cycle, which would include the steps shown in Figures 12-14, and perhaps additional steps.

At page 6, please delete paragraph [0038] and replace it with the following paragraph:

It is also contemplated that the debris-removal process may coincide with the deposition of the ceramic slurry described in connection with Figure 1. For example, Figure 16 illustrates a mold-pattern 3 present within the fluidized bed 12. The computer driving the gantry 71 is programmed to avoid the zone allotted to the pattern 3, as indicated by the jog 105 in path 110, which avoids the pattern 3. Figure ~~46~~ 17 illustrates a top view of the tank 14 which contains fluidized bed 12, and shows a representative zone 105 which the auger 15 is prohibited from entering.

At page 6, please delete paragraph [0039] and replace it with the following paragraph:

Therefore, as just described, two types of programs 95 in Figure 12, or two modes, are available. In one type, it is presumed that the tank 14 is empty of patterns 3, and that the auger 50 can be moved anywhere in the tank 14 at will. In the second mode, different regions of the tank are restricted, and allocated to patterns 3. Region 115 in ~~Figure~~ Figure 17 provides an example. The auger 50 is forbidden to enter those regions, when they are active.

At page 7, please delete paragraph [0042] and replace it with the following paragraph:

As the screen 46 in Figure 18 moves in the direction of arrow 160, it moves through the moving sand particles 155. The paths of the sand particles will be somewhat disturbed ~~by~~ by the presence of the ramp 40, in the sense that the holes (not shown) in the screen 46 behave, to a certain extent, like very short corridors. The hole-corridors will slightly re-direct the paths of the sand particles.

At page 8, please delete paragraph [0048] and replace it with the following paragraph:

The principle just described applies to particles of the size of ½ inch in diameter, and having a solid wax core. However, exceptions to the principle just stated can occur. For example, very small particles, especially if very light, can be buoyed up by the fluidized sand. For example, table tennis balls may climb the ramp. However, such particles will inflict only minor damage of the type described in the Background of the Invention, and may not need to be extracted from the fluidized bed. Further, such particles are ~~considered~~ considered unlikely to be found in the fluidized bed 12.

At page 8, please delete paragraph [0050] and replace it with the following paragraph:

Figure 23 illustrates a flow chart of steps undertaken by one form of the invention, and some, or all, of these steps may be implemented by the programs 95 of Figure 12. In block 300 in Figure 23, the fluidized bed 12 of Figure 1 is brought into operation. In block 305, the user selects a mode of operation. For example, the user may ~~selecte~~ select the mode which drives the auger 50 along path 100 in Figure 15. Alternately, the user may select the mode which utilizes path 110 in Figure 16, and avoids zone 115 in Figure 17.

At page 9, please delete paragraph [0053] and replace it with the following paragraph:

Various types of ~~connection~~ connections 350 in Figure 12 between the motor 75 and shaft 32 can be used. One connection is a simple rigid coupling. Another connection has some of the properties of a universal joint. For example, an actual universal joint can be used, of the type used on the driveshaft of an automobile. One of the properties of a universal joint is that torque is delivered to the shaft 32, but the shaft 32 need not remain coaxial with the shaft, not shown, of the motor 75. That is, shaft 32 can swing like a pendulum.

At page 11, please delete paragraph [0065] and replace it with the following paragraph:

In Figure 29, arrow 510 represents a radial direction, or a direction along a radius. Thus, ~~troughs~~ troughs of Figures 26 and 27 can be said to extend radially from the shaft 32.